Claims

1. A tissue dissector comprising:

an elongated cannula, having a proximal end and a distal end;

a tip having tapered outer walls and being disposed on the distal end of the cannula for inserting into tissue; and

a dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for displacing tissue to form a surgical cavity therein.

2. The dissector of claim 1 in which the tip is transparent, and comprising:

an endoscope disposed within the cannula, having a distal end positioned near the distal end of the cannula and having a proximal end coupled to the proximal end of the cannula, the distal end of the endoscope being positioned near the tip for providing a field of view through the tip.

3. The dissector of claim 1 in which the dilating element is substantially of oval shape.

4. The dissector of claim 1 wherein the cannula further comprises:

a locking mechanism, positioned near the distal end of the cannula at a location recessed from the tip disposed on the distal end of the cannula; and the dilating element further comprises a mating lock

to mate with the locking mechanism for positioning the dilating element on the cannula at a location thereon recessed from the distal end thereof.

5. The dissector of claim 2 wherein a spacer length is disposed intermediate the tip and the dilating element having an outer dimension less than the outer dimension of the dilating element, for positioning the dilating element within an angle of the tapered outer walls of the tip to permit contact of the outer walls of the tip with a target vessel.

6. The dissector of claim 4 in which the locking mechanism further comprises a length of screw threads positioned on the surface of the cannula, and the mating lock of the dilating element further comprises a threaded bore hole for fixably coupling the dilating element to the length of screw threads.

7. The dissector of claim 4 in which the locking mechanism further comprises at least one protuberance and the mating lock of the dilating element further comprises a mating slot for fixably coupling the dilating element to the protuberance.

8. The dissector of claim 4 for operation with selected ones of a population of dilating elements of differing maximum dimensions for enlarging a surgical cavity to differing dimensions.

9. The dissector of claim 1, in which the dilating element is expansively resilient.

10. The dissector of claim 1 in which the dilating element is expansively resilient, and comprising:

a sheath slidably positioned on the cannula, and having a distal end disposed upon the dilating element in a first position and recessed from the dilating element in a second position, for reducing the outer dimension of the dilating element responsive to being in the first position and for allowing the expansion of the outer dimension of the dilating element responsive to being in the second position.

11. The dissector of claim 1 in which the tip and the dilating element form a single unit and a proximal end of the unit is configured to mate to the distal end of the cannula.

12. A method for enlarging a surgical cavity about a target vessel, using a tissue dissector having a portion thereof of expanded dimension and having a transparent tip with tapered outer walls positioned at the distal end of the tissue dissector, the method comprising:

incising skin;

dissecting within the incision to expose a surface of the target vessel;

positioning a tapered outer wall of the transparent tip of the tissue dissector on the surface of the vessel;

advancing the tissue dissection under endoscopic visualization through the transparent tip; and

simultaneously expanding the surgical cavity in a lateral direction responsive to the portion of the tissue dissector of expanded dimension, as the tissue dissector is advanced.

13. The method of claim 12 comprising:

removing the tissue dissector from the expanded surgical cavity;

increasing the dimension of the portion of the tissue dissector of expanded dimension; and

re-inserting the tissue dissector into the surgical cavity for advancement therein to expand the dimension thereof in response to passage there through of the portion of the tissue dissector of increased dimension.